

**REMARKS**

Claims 65-72, 74-77, 81-82 and 84-85 are pending in the application.

Claims 65 and 68-69 stand rejected under 35 U.S.C. § 102(b) as being anticipated by JP 11204524 ('524). The Examiner is reminded by direction to MPEP § 2131 that anticipation requires each and every element of a claim to be disclosed in a single prior art reference. Claims 65 and 68-69 are allowable over '524 for at least the reason that the reference fails to disclose each and every element in any of those claims.

Each of independent claims 65 and 68 recites a physical vapor deposition target consisting of an alloy of copper and silver where silver is present in the alloy at from less than 1.0 at% to 0.001 at%. The Examiner indicates that these features are anticipated by '524 and specifically relies on paragraph 42. As noted in applicant's previous response paragraph 42 of the '524 reference discloses a copper alloy film 108. The '524 disclosure of a copper alloy film does not anticipated the claims 65 and 68 recited physical vapor deposition target.

At page 4 of the present Action, the Examiner indicates that applicant's previous remarks with respect to '524 are not persuasive because "the composition of the target disclosed by the cited reference would not be changed because of different process or intended use". Applicant notes that the claims at issue specifically recite a physical vapor deposition target and not an intended use. Nor do the claims recite a process. From the Examiner's statements at page 4 of the action it would appear that the Examiner is suggesting that the copper alloy film 108 disclosed at paragraph 42 of the '524 reference could be utilized as a target or qualify as a target. (Applicant requests clarification if such is

not the position intended by the Examiner). Nowhere does the '524 reference suggest such a use. Further, utilization of the copper alloy film 108 disclosed by the '524 reference as a target would most likely destroy the film for its intended purpose. Accordingly, claim 68 is not anticipated by '524.

Applicant further notes that the '524 disclosure specifically indicates that copper alloy film 108 is formed by deposition of a copper alloy film 106 which includes silver, and chemical vapor deposition of an overlying copper layer 107, followed by diffusion of silver into film 107 to form alloy film 108 (see abstract and paragraphs 36-38 and 44-45). The '524 reference indicates that the desired film 108 cannot be formed by sputtering since such techniques do not provide the necessary step coverage. Accordingly, the '524 reference teaches away from utilizing sputtering. Such disclosure in no way suggests the recited target where silver is present at from less than 1.0 at% to 0.001 at% and claims 65 and 68 are not rendered obvious by '524.

Dependent claim 69 is allowable over '524 for at least the reason that it depends from allowable base claim 68.

Claims 66-67, 70-72, 81-82 and 85 stand rejected under 35 U.S.C. § 103(a) as being obvious over the combination of '524 and Kardokus, U.S. Patent No. 6,113,761. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. Each of these factors must be shown in order to establish a *prima facie* case of obviousness, the

burden of which is on the Examiner. Claims 66-67, 70-72, 81-82 and 85 are allowable over Kardokus for at least the reason that Kardokus fails to disclose or suggest each and every element in any of those claims.

As indicated above independent claims 65 and 68 are not rendered obvious by the '524 disclosure. Independent claim 71 recites a physical vapor deposition target consisting of an alloy of copper and silver where silver is present in the alloy at from less than 1 at% to 0.001 at%. Independent claim 81 recites a physical vapor deposition target consisting of copper and least one of silver and tin where the at least one of silver and tin are present at from less than 1 at% to 0.001 at%. Independent claims 71 and 81 are not anticipated or rendered obvious by the '524 disclosure for at least reasons similar to those discussed above with respect to independent claims 65 and 68.

As indicated at pages 3 and 4 of the present Action, Kardokus is relied upon as disclosing Sn and Ag elements, and grain size for sputtering targets. However, the ranges disclosed by Kardokus do not overlap the recited content of Sn and/or Ag and therefore Kardokus does not suggest the recited silver and or tin content of the present claims. The Examiner indicates at page 4 of the present Action that "increasing or reducing the elements contents are within ambit of ordinary skill artisan for desired properties". However this statement is not supported by any reference and is unfounded. Nothing in any of the cited references discloses or suggests the Sn and/or Ag content recited in applicant's claims. The only suggestion for the recited Sn/Ag content is applicant's own specification which cannot be used as a basis of rejection of the claims.

The Examiner further states at page 3 of the present Action that "it is contemplated within ambit of ordinary skill artisan to recognize the Cu-Ag film of JP 11204524 would have the grain size in order to benefit for the uniform film thickness". However, nothing the in the '524 disclosure teaches or suggests that a grain size is achieved such as that suggested by the Examiner. Further, as discussed above the film disclosed by '524 is not a target and utilization of such film as a target would likely destroy the integrity of the film. Accordingly, the combination of Kardokus and '524 fails to support the Examiner's position. Therefore, no *prima facie* case of obviousness has been established relevant to independent claims 65, 68, 71 and 81 and such claims are allowable over the combination of '524 and Kardokus.

Dependent claims 66-67, 70, 72, 82 and 85 are allowable over the combination of '524 and Kardokus for at least the reason that they depend from corresponding allowable base claims 65, 68, 71 and 81.

Claims 74-77, 81-82 and 84 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Kardokus, '524, and JP 01096374 ('374). As indicated above independent claim 81 is not rendered obvious by the combination of Kardokus and '524. Independent claim 74 recites a physical vapor deposition target consisting of copper from less than 1.0 at% to 0.001 at% Sn, and optionally silver. Claim 74 is not rendered obvious by the combination of Kardokus and '524 for at least reasons similar to those discussed above with respect to independent claims 65, 68, 71 and 81.

The Examiner indicates reliance upon '374 as showing that higher contents of stabilizers are known in sputtering art. Applicant notes however that the '374 reference

teaches a target material 1 (composition unspecified) bonded to a cladding sheet comprising copper and one or more elements which can include, for example, Sn. The copper cladding sheet disclosed by '374 facilitates separation of the target from the backing plate. Such disclosure does not contribute toward suggesting the claims 74 and 81 recited physical vapor deposition targets comprising an alloy of copper and the recited amounts of Sn and/or Ag. The '374 disclosed use of Sn in a cladding sheet in no way contributes toward suggesting utilization of Sn and/or Ag as indicated by the Examiner and such disclosure fails to support the Examiner's position set forth in the office action. Accordingly, independent claims 74 and 81 are not rendered obvious by the cited combinations of Kardokus, '524 and '374 and are allowable over these references.

Dependent claims 75-77, 82 and 84 are allowable over the cited combination of Kardokus, '374 and '524 for at least the reason that they depend from corresponding allowable base claims 74 and 81.

For the reasons discussed above pending claims 65-72, 74-77, 81-82 and 84-85 are allowable. Accordingly, applicant respectfully requests formal allowance of such pending claims in the Examiner's next action.

Respectfully submitted,

Dated: February 17, 2005

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